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APPLICATION NO.		FILING DATE	FIRST NAMED INVENTOR Takamitsu Asanuma	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/904,875		07/16/2001		110108	1757
25944	7590	04/18/2003			
OLIFF & B		GE, PLC	EXAMINER		
P.O. BOX 19 ALEXANDR		22320	NGUYEN, TU MINH		
				ART UNIT	PAPER NUMBER
				3748	19
				DATE MAILED: 04/18/2003	

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No. **09/904,875**

Applicant(s)

Asanuma et al.

Examiner

Tu M. Nguyen

Art Unit **3748**

Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE		The MAILING DATE of this communication appears	on the cover she	et with	the correspondence address				
THE MALING DATE OF THIS COMMUNICATION. Extrasions of time may be withink burder the provisions of 37 CFR 1.138 (a). In no event, however, may a reply be timely filed after SIX (8) MONTHS from the maling date of this communication. If NO paried for reply ta geodied above is less than thirty (30) days, a reply within the stratutory minimum of thirty (30) days will be considered timely. If NO paried for reply ta geodied above is less than thirty (30) days, a reply within the stratutory minimum of thirty (30) days will be considered timely. If NO paried for reply ta geodied above is less than these months after the mealing date of the communication. Any reply received by the Office later than these months after the mealing date of the communication, even if threely filed, may reduce any search plants the mealing date of the communication, even if threely filed, may reduce any search plants the mealing date of the communication, even if threely filed, may reduce any search plants the mealing date of the communication, even if threely filed, may reduce any search plants are closed in accordance with the practice under Ex parte Quay/e, 1935 C.D. 11; 453 O.G. 213. Disposition of Clalims A) Claim(s) 1-6									
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4a) Of the above, claim(s)	Disposi	ion of Claims							
5) Claim(s) 2-4 is/are allowed. 6) Claim(s) 1, 5, and 6 is/are rejected. 7) Claim(s) is/are objected to. 8) Claims are subject to restriction and/or election requirement. Application Papers The specification is objected to by the Examiner. 10 The drawing(s) filed on is/are a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). 11 The proposed drawing correction filed on Apr 30, 2002 is: a) approved b) disapproved by the Examiner. If approved, corrected drawings are required in reply to this Office action. 12 The oath or declaration is objected to by the Examiner. Priority under 35 U.S.C. §§ 119 and 120 13 Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b Some* c None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No. 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). *See the attached detailed Office action for a list of the certified copies not received.	4) 💢	Claim(s) <u>1-6</u>			is/are pending in the application.				
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14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).									
a) ☐ The translation of the foreign language provisional application has been received. 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.									
Attachment(s) 1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s)	_		4) Interview Sur	mmary (PT	0-413) Paper No(s)				
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)	7.		=		· · · · · · · · · · · · · · · · · · ·				
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s)									

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DETAILED ACTION

 An Applicant's Request for Continued Examination (RCE) and an Applicant's Amendment filed on March 31, 2003 have been entered.

Claims 7 and 8 have been canceled; and claims 1-5 have been amended. Overall, claims 1-6 are pending in this application.

Drawings

2. The amended drawings filed on April 30, 2002 have been approved for entry. Upon allowance of this application, formal drawings with the approved changes must be submitted.

Claim Rejections - 35 USC § 103

- 3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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4. Claims 1, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seto et al. (Japan Publication 6-117221) in view of Maaseidvaag et al. (U.S. Patent 6,167,696).

Re claims 1 and 5, as shown in Figures 1 and 9 and indicated in the translated Abstract, Seto et al. disclose a device for purifying the exhaust gas of an internal combustion engine, comprising:

- a NOx absorbent (20) arranged in the exhaust system, which carries an oxidation catalyst (a NOx absorbing agent) for absorbing and reducing NOx, the catalyst absorbing NOx when the air-fuel ratio in the surrounding atmosphere thereof is lean and releasing the absorbed NOx when the air-fuel ratio is stoichiometric or rich;
- a catalytic apparatus (17) for purifying NOx arranged in the exhaust system upstream of the NOx absorbent, the catalytic apparatus carries a catalyst (a NOx absorbing agent) for absorbing NOx when the air-fuel ratio in the surrounding atmosphere thereof is lean and releasing the absorbed NOx when the air-fuel ratio is stoichiometric or rich; and
- control means (50, 11) for making the air-fuel ratio in the catalytic apparatus rich to release NOx therefrom and purify the released NOx by reduction.

Seto et al., however, fail to disclose that the NOx absorbent can also function as a particulate filter.

As shown in Figures 1 and 4, Maaseidvaag et al. teach that it is conventional in the art to use an integral NOx/ particulate filter (22) which carries a catalyst (54) (lines 33-39 of column 6) for absorbing and reducing NOx. It would have been obvious to one having ordinary skill in the

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art at the time of the invention was made, to have replaced the NOx absorbent in Seto et al. with

the integral NOx/particulate filter taught by Maaseidvaag et al., since the use thereof would have

provided an effective means to eliminate soot from the exhaust gas of internal combustion

engines.

Re claim 6, in the modified device of Seto et al., the integral NOx/particulate filter carries

an oxygen absorbing agent (a precious metal or an alkaline metal in the catalyst (54) of

Maaseidvaag et al. is known as an oxygen absorbing agent).

Allowable Subject Matter

5. Claims 2-4 are allowed.

Prior Art

6. The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure and consists of two patents:

- Dettling et al. (U.S. Patent 5,100,632) disclose a diesel particulate filter coated with a

catalyst to lower an ignition temperature of collected particulates.

- Sasaki et al. (U.S. Patent 5,937,639) disclose two NOx absorbents in series (see Figure

20).

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Communication

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Tu Nguyen whose telephone number is (703) 308-2833.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Thomas E. Denion, can be reached on (703) 308-2623. The fax phone number for this group is (703) 308-7763.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1148.

TMN

April 16, 2003

Tu M. Nguyen
Tu M. Nguyen

Patent Examiner

Art Unit 3748

THOMAS DENIUN
SUPERVISORY PATENT EXAMINER

TECHNOLOGY CENTER 3700